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*See note
at 1870, 3288*

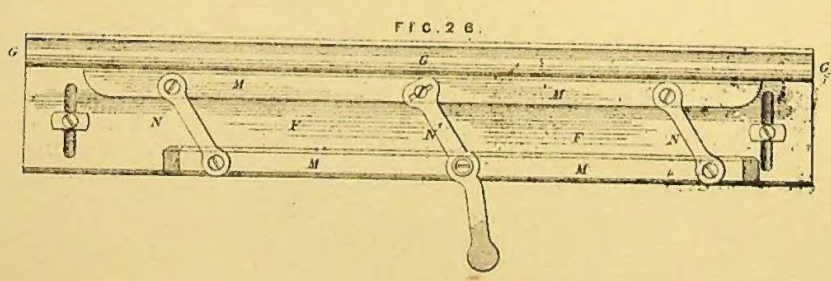
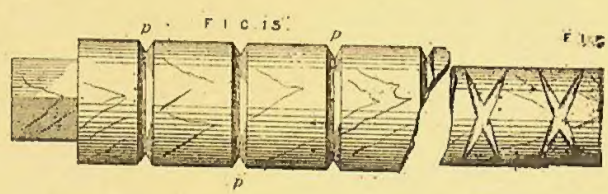
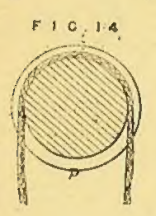
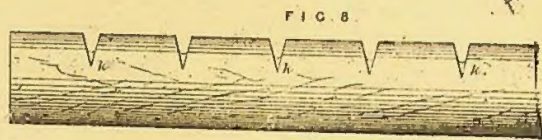
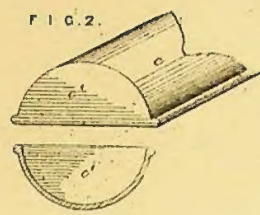
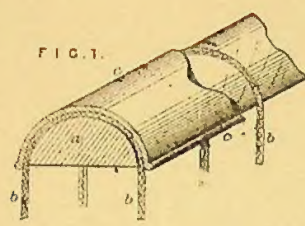


FIG. 3.

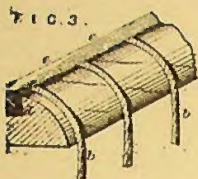


FIG. 4.

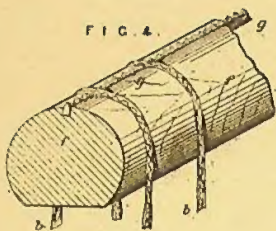


FIG. 5.

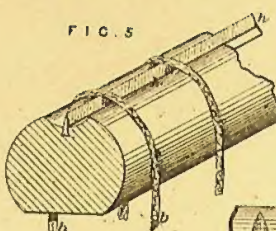


FIG. 6.

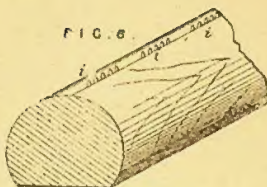


FIG. 11.

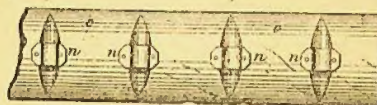


FIG. 9.



FIG. 10.

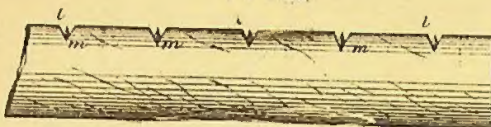


FIG. 12.

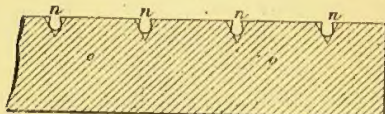


FIG. 13.

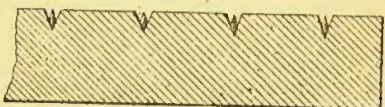


FIG. 16.

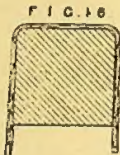


FIG. 18.

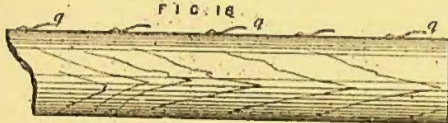


FIG. 19.



FIG. 20.

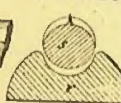


FIG. 21.

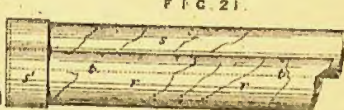


FIG. 22.

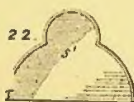


FIG. 23.

FIG. 17.



FIG. 24.

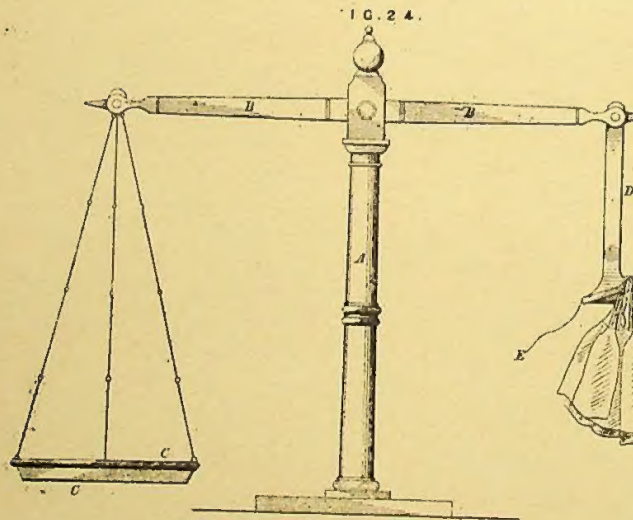


FIG. 22.

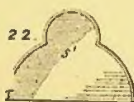


FIG. 23.

FIG. 28.

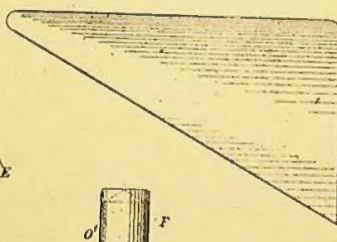
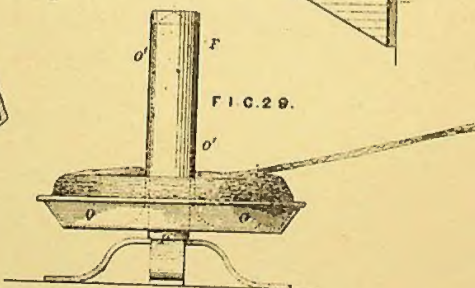


FIG. 29.



27. OILS, FATS & GLUE.
Candle Apparatus



A.D. 1870, 15th DECEMBER. N° 3288.

Candles.

LETTERS PATENT to Jesse Ascough, of Handsworth, in the County of Stafford, for the Invention of "IMPROVEMENTS IN THE MANUFACTURE OF CANDLES, AND IN APPARATUS TO BE EMPLOYED THEREIN."

Sealed the 24th February 1871, and dated the 15th December 1870.

COMPLETE SPECIFICATION filed by the said Jesse Ascough at the Office of the Commissioners of Patents, with his Petition and Declaration, on the 15th December 1870, pursuant to the 9th Section of the Patent Law Amendment Act, 1852.

5 TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JESSE
Ascough, of Handsworth, in the County of Stafford, do hereby declare
the nature of my said Invention for "IMPROVEMENTS IN THE MANUFACTURE
OF CANDLES, AND IN APPARATUS TO BE EMPLOYED THEREIN," and in what manner
the same is to be performed, to be particularly described and ascertained
10 in and by the following statement thereof, reference being had to the
Drawings hereunto annexed, and to the letters and figures marked
thereon, that is to say:—

My Invention refers partly to certain improvements upon a former
Invention for which Letters Patent were granted to me bearing date

Ascough's Improvements in the Manufacture of Candles.

March 21st 1870, and having a similar title to the above; a portion of that Specification describes various improved methods of forming and arranging the rods and blocks employed to carry the wicks of snuffless and other dip candles during the process of dipping such wicks, and my present Invention relates in the first place to further improved methods 5 of forming or arranging the said wick carrying rods for the purpose of dipping the candles in pairs, the blocks or stocks in all cases being of suitable form to receive and support the ends of such rods.

Referring to the Drawings, Figure 1 shews a portion of a dipping rod (*a*) for carrying a series of wicks (*b*), so that the candles shall be 10 dipped in rows of pairs into the melted tallow or other composition, instead of singly in rows, as in the ordinary way; (*c*) is a cap or cover fitting over and upon the wicks (*b*), and keeping them in position during the dipping process; the cap or cover (*c*) may be formed with solid ends, as shewn at (*c*¹), Figure 2, so as to prevent the displacement or twisting 15 of the wicks, and in using, as I prefer to do, a plaited wick, it is a matter of importance to prevent such displacement or twisting.

Figure 3 is a form of rod having a groove (*d*) for receiving a square bar (*e*), which fitting into the groove (*d*) securely holds the wicks (*b*) in position. By another method, as shewn in Figure 4, I form a rod (*f*), 20 either circular, oval, or angular in section, and provided with a metal serrated edge (*g*) let into the top of the rod, so that the wicks (*b*) in passing over the rod become engaged upon the teeth of the serrated edge (*g*), firmly holding the wicks during the process of dipping. Figure 5 is a similar rod having a metal toothed plate (*h*), in this case 25 let into a hollow upon the top of the rod, so that the points of the teeth do not project beyond the circumference of the rod; or, as seen in Figure 6, points or projecting teeth (*i*) may be arranged at intervals along the top of the rod.

Figures 7 and 8 shew in section and part elevation a wick carrying 30 rod having a series of notches or cross grooves (*k*), into which the wicks pass and obtain a seating, as shewn in Figure 7; or, as represented in Figures 9 and 10, in addition to the series of grooves or notches (*l*) small points or pins (*m*) may be let into the grooves or notches, and the wicks becoming engaged thereupon will be securely held in place 35 for dipping.

Again, as illustrated in plan and part longitudinal section, Figures 11 and 12, small metal spring clips (*n*) may be inserted and suitably

Ascough's Improvements in the Manufacture of Candles.

- fastened in recesses or grooves in the rod (*o*) for receiving the wicks, or in combination with the metal clips the points or pins before alluded to may be used, as in the section, Figure 13; or again, if preferred, I form the series of grooves to surround the rod, as illustrated in section and
- 5 part elevation, Figures 14 and 15; the rod is here shewn as circular, and the grooves (*p*) may be formed either with or without the points or metal spring clips before described, or the grooves may be cut, so as to cross each other, as seen in plan, Figure 15^a, with a point or pin in the centre if desired.
- 10 Figures 16 and 17 are other forms in section which may be suitably employed for the grooved rods.
- Figure 18 represents in part elevation a rod having a series of spring clips (*q*) secured to the rod in suitable numbers, and under which the wicks may pass and be held for the dipping.
- 15 Figures 19 and 20 shew in part elevation and section a combined form of wick holding rod, consisting of a lower grooved rod (*r*) for receiving an upper rod (*s*), the two rods being held firmly together and in place by a moveable cap (*s*¹) at either end; the upper rod (*s*) has a series of cross grooves or notches and pins, as before specified, for holding the
- 20 wicks, and if required the lower grooved rod (*r*) may have cross grooves or notches (*t*), so that in turning the upper rod (*s*) to free the wicks for stripping the candles the pins may pass on to the under side, when the upper rod (*s*) will present a top edge, as shewn in part elevation, Figure 21, thus allowing the candles to be stripped from the rods. It
- 25 may also be remarked that in using some of the other grooved rods shewn to strip the candles therefrom, it will be merely requisite to turn the rod partially round, when the wick will be freed from the grooves and points. Figure 22 shows the cap or cover (*s*¹) removed from the rods; it is of a form to suit the shape and size of the rods being used,
- 30 and may be applied to several of the weighted rods described in the Specification of my former Patent.

By another method, as will be seen in Figure 23, I secure upon either end of the smaller rod (*u*) a plate or catch piece (*v*) of any desired shape, which, passing over a portion or the whole of the ends of the

35 lower rod (*w*) will hold the two rods in position.

I have already alluded to the "stripping" of the candles from the rods after the dipping process, as in the ordinary manner in the case of candles made in single rows, by preference, however, I take the candles

Ascough's Improvements in the Manufacture of Candles.

from the improved rods when made in pairs by passing the fingers under the wicks and lifting the candles from the rods in suitable numbers, and conveying them to be "weighed," "pounded," and "tied up," by which means the wicks are readily released from the grooves, clips, or pins of the rods.

5

The operations of "pounding" and "tying" the candles may be performed in the usual manner, but I prefer to employ an ordinary scale and beam adapted for my purpose, as shewn in Figure 24; the standard or support (A) carries the beam (B), which is provided at its one end with a scale (C) for the weight, and has at the other end a peculiarly 10 shaped pendent arm (D), the fork (D') of which receives upon it the candles to be weighed and tied, and which may be brought direct from the rods and placed thereupon. I purpose forming in the fork (D') of the arm (D) a hollow or recess, and in which a suitable length of string or tying material (E) is laid before the candles are placed upon the 15 fork (D'), so that the candles having been weighed the ends of the string (E) may be secured; or I use the pendent arm (D) in combination with a steelyard or dial plate instead of the scale arrangement; or I attach a bobbin or ball of string or tying material to a suitable part of the apparatus, and use it in a continuous length upon the fork (D') of the 20 arm (D), in which case it may be found requisite to provide the apparatus with a small cutter or knife, for the purpose of cutting the string when the candles are tied.

My Invention further relates to improvements in or addition to the ordinary wick cutting machines, and are shewn in plan in Figures 25 25 and 26. (F) is the ordinary guage table, secured upon a bed in front of the usual guillotine or cutting bar. I form a suitably shaped groove or trough (G) to receive a wick rod, such as Figure 27, having a series of wicks arranged thereupon ready for cutting. (H), Figure 25, is a horizontal bar attached to the guage table (F), but capable of a slight 30 spring movement to or from the groove or trough (G) by means of the slots (I) working upon the pins (I'), and actuated by the helical springs and pegs (K), which partially work into or enter the back bar (L); the purpose of this arrangement of the guage table (F) is that of keeping the wick rod securely in place, and the wicks from twisting, slipping, or 35 other displacement during the cutting operation.

In using these improvements for plaited wicks I avoid the employment of the ordinary wick twisting board, and consequently the loss of

Ascough's Improvements in the Manufacture of Candles.

time involved in the operation, and in using rods, as before specified, having a second or weight rod, such an arrangement of a spring bar (H) will force into place the second or weight bar, and retain it in position until removal; in place of the helical springs (K) horizontal or bow
5 springs may be used for obtaining a similar result. In the arrangement, Figure 26, the moveable bar (M) is worked to tighten up or release the wick rod by means of levers (N) attached to the bar (M) and back bar (M¹), the centre (N¹) having a handle (N²).

In removing the rods with the cut wicks in pairs thereupon from the
10 cutting machine to be dipped it may sometimes be found that the two lengths of some of the pairs of wicks will cling together, or become slightly twisted, and to separate or free the ends in such a case I purpose using any convenient means, such as a blade or separator, shewn in elevation, Figure 28, secured to the side or frame of the tallow bath,
15 cutting machine, or other convenient support, so that the operator in bringing a rod of wicks to be dipped may readily pass the wicks across the separator or blade to free the partially twisted wicks; in practice, however, such a provision will be seldom needed, as a slight shake of the wicks prior to dipping will generally be found sufficient.

20 Figure 29 represents in side elevation an improved form of holder for the ball, bobbin, or hank of the wick material; (O) is a holder or cup with a hollow vertical tube (o¹), capable of revolving upon a spindle (P) secured to a stand or bracket, or otherwise as desired; the object of this arrangement is, that when the wick material is drawn from the wick
25 holder it shall pass to the cutting machine without becoming twisted or stretched in its length.

My Invention also relates to certain improvements in the formation or composition of the wicks to be used in the manufacture of any description of candle. I form a plaited wick, and with each plait I use a cord, which
30 may, if preferred, be previously steeped in a solution of gutta percha or india-rubber, or in a solution of the composition herein-after described; the wicks are made of any suitable animal and vegetable fibre used in combination. Again I mix together cotton, woollen, hair, or other
suitable vegetable or animal fibre, using all or some descriptions of
35 such fibre together in suitable proportions, and either in a state of solution, or cut or reduced to powder in combination with paper pulp, white or colored, and with the admixture if requisite of gutta percha, india-rubber, and other gums or resins in pieces, powder, or solution, to

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such a consistency that the mass may be spread, dried, and rolled into requisite thicknesses to be cut, drawn out, or pressed into suitable breadths and lengths for forming candles or taper wicks, or cores, and either round, spiral, flat, or of any other suitable shape; or I pass the pulp as described through or into tubes or moulds of any convenient shape for 5
producing the composite wicks, tapers, or cores. I may also add to the pulpy substance or composite mass if desired parafin or other similar mineral product with fatty substances, vegetable or animal, either in combination or separately, and with or without previous bleachings or saponification, such additions to the composition rendering the moulded 10
forms or cut lengths of the material by one operation as taper or candle cores. I also purpose dipping any suitable plaited or other wicks in a solution of the above composition for the purpose of forming candles, tapers, or candle cores.

In witness whereof I, the said Jesse Ascough, have hercunto set 15
my hand and seal this Ninth day of December, in the year of
our Lord One thousand eight hundred and seventy.

JESSE ASCOUGH. (L.S.)

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1871.